

DAP12 (A-8): sc-166085

BACKGROUND

Natural killer (NK) cells are regulated by stimulatory and inhibitory signals from a variety of receptors. Three main receptor families are responsible for NK cells recognition of MHC I molecules, including Ly-49, CD94/NKG2 and KIR (killer-cell inhibitory receptor). DAP12 is a phosphoprotein that is involved in the activation of NK cells. This protein interacts with membrane glycoproteins of the KIR family, resulting in cellular activation. DAP12 also binds to CD94/NKG2C, an activating NK cell receptor belonging to the C-type lectin superfamily. Additional proteins that bind to DAP12 include Ly-49D and Ly-49H, which associate with DAP12 in the plasma membrane. Phosphorylated DAP12 binds to ZAP-70 and Syk, suggesting that the activation pathway may be similar to that of the T and B cell antigen receptors.

REFERENCES

1. Lanier, L.L. 1998. NK cell receptors. *Annu. Rev. Immunol.* 16: 359-393.
2. Lanier, L.L., Corliss, B., Wu, J. and Phillips, J.H. 1998. Association of DAP12 with activating CD94/NKG2C NK cell receptors. *Immunity* 8: 693-701.
3. Smith, K.M., Wu, J., Bakker, A.B., Phillips, J.H. and Lanier, L.L. 1998. Ly-49D and Ly-49H associate with mouse DAP12 and from activating receptors. *J. Immunol.* 161: 7-10.
4. Lanier, L.L., Corliss, B.C., Wu, J., Leong, C. and Phillips, J.H. 1998. Immunoreceptor DAP12 bearing a tyrosine-based activation motif is involved in activating NK cells. *Nature* 391: 703-707.
5. Vitale, M., Bottino, C., Sivori, S., Sanseverino, L., Castriconi, R., Marcenaro, E., Augugliaro, R., Moretta, L. and Moretta, A. 1998. NKp44, a novel triggering surface molecule specifically expressed by activated natural killer cells, is involved in non-major histocompatibility complex-restricted tumor cell lysis. *J. Exp. Med.* 187: 2065-2072.

CHROMOSOMAL LOCATION

Genetic locus: TYROBP (human) mapping to 19q13.12; Tyrobp (mouse) mapping to 7 B1.

SOURCE

DAP12 (A-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 76-112 at the C-terminus of DAP12 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166085 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

DAP12 (A-8) is recommended for detection of DAP12 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DAP12 (A-8) is also recommended for detection of DAP12 in additional species, including canine.

Suitable for use as control antibody for DAP12 siRNA (h): sc-35172, DAP12 siRNA (m): sc-42854, DAP12 shRNA Plasmid (h): sc-35172-SH, DAP12 shRNA Plasmid (m): sc-42854-SH, DAP12 shRNA (h) Lentiviral Particles: sc-35172-V and DAP12 shRNA (m) Lentiviral Particles: sc-42854-V.

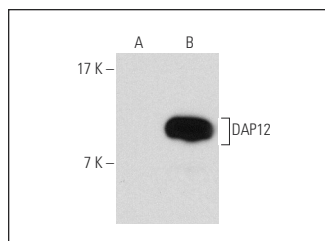
Molecular Weight of DAP12: 12 kDa.

Positive Controls: J774.A1 cell lysate: sc-3802, DAP12 (h): 293T Lysate: sc-112269 or U-937 cell lysate: sc-2239.

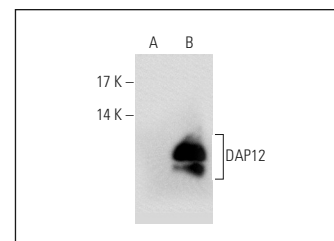
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DAP12 (A-8): sc-166085. Western blot analysis of DAP12 expression in non-transfected: sc-117752 (A) and human DAP12 transfected: sc-174294 (B) 293T whole cell lysates.



DAP12 (A-8): sc-166085. Western blot analysis of DAP12 expression in non-transfected: sc-117752 (A) and human DAP12 transfected: sc-112269 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sunkaria, A., Bhardwaj, S., Halder, A., Yadav, A. and Sandhir, R. 2016. Migration and phagocytic ability of activated microglia during post-natal development is mediated by calcium-dependent purinergic signalling. *Mol. Neurobiol.* 53: 944-954.

RESEARCH USE

For research use only, not for use in diagnostic procedures.